



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/991,109

11/26/2001

Stefan Dyckerhoff

0023.0042

3431

44987

7590

01/19/2006

HARRITY SNYDER, LLP

11350 Random Hills Road

SUITE 600

FAIRFAX, VA 22030

EXAMINER

MIRZA, ADNAN M

ART UNIT

PAPER NUMBER

2145

DATE MAILED: 01/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/991,109

Applicant(s)

DYCKERHOFF ET AL.

Examiner

Adnan M. Mirza

Art Unit

2145

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-57 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kovacevic et al (U.S. 6,674,805) and further in view of Echeita et al (U.S. 6,078,958).

As per claims 1,21,40,48,57 Kovacevic disclosed a system for processing data received in a plurality of incoming streams of variable speeds, comprising: a memory configured to store data associated with a plurality of incoming streams of variable speeds (col. 25, lines 21-25); and a dispatch unit comprising a second arbitration element to arbitrate among the streams of variable speeds and configured to read the data from the memory using the second arbitration element (col. 19, lines 47-61).

However Kovacevic failed to disclose, “an interface controller comprising a first arbitration element to arbitrate among the streams of variable speeds and configured to store the data in the memory using the first arbitration element”.

In the same field of endeavor Echeita disclosed, “The media concentrator with arbitration 20 determines that the information of data streams one, two and three should be transmitted over e.g. a representative 30 Mbps available bandwidth channel to subscribe

Art Unit: 2145

stations along with live data at a particular time, based on priority. The first frame of processed data of data stream two is placed on output of storage device (col. 7, lines 64-67 & col. 8, lines 1-2).

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to have incorporated The media concentrator with arbitration 20 determines that the information of data streams one, two and three should be transmitted over e.g. a representative 30 Mbps available bandwidth channel to subscribe stations along with live data at a particular time, based on priority as taught by Echeita in the method and system of Kovacevic to avoid bandwidth clog by allocating concentrating output bandwidth requirements and predict the bandwidth more efficiently.

3. As per claims 2,22 Kovacevic-Echeita disclosed wherein the memory includes: a plurality of memory buckets corresponding to the streams (Kovacevic, col. 16, lines 1-21).

4. As per claims 3 Kovacevic-Echeita disclosed wherein the memory buckets have a fixed size (Kovacevic, col. 20, lines 16-23).

5. As per claims 4,23 Kovacevic-Echeita disclosed wherein the first arbitration element is configured to store a plurality of entries, each of the entries including a stream number that identifies one of the streams (Kovacevic, col. 16, lines 1-11).

Art Unit: 2145

6. As per claims 5,24 Kovacevic-Echeita disclosed wherein the number of entries in the first arbitration element for a particular one of the streams is based on a speed of the stream (Kovacevic, col. 31, lines 10-21).

7. As per claims 6 Kovacevic-Echeita disclosed wherein the interface controller is configured to: read one of the stream numbers from the first arbitration element, providing a list of potential proxy candidates; providing a search mechanism to add more candidates to said list of potential proxy candidates; and receiving a selection of one or more of said potential proxy candidates, including a selection of said first entity (Kovacevic, col. 25, lines 31-47).

8. As per claims 7,26 Kovacevic-Echeita disclosed wherein the interface controller is further configured to send a stream identifier with the data transferred to the memory (Kovacevic, col. 36, lines 15-27).

9. As per claims 8,27 Kovacevic-Echeita disclosed wherein the memory is further configured to sort the data from the interface controller based on the stream identifier (Kovacevic, col. 36, lines 15-27).

10. As per claims 9,28 Kovacevic-Echeita disclosed wherein the first and second arbitration elements are synchronized (Kovacevic, col. 8, lines 32-43).

Art Unit: 2145

11. As per claims 10,29 Kovacevic-Echeita disclosed wherein: the second arbitration element is configured to store a plurality of entries, each of the entries including a stream number that identifies one of the streams (Kovacevic, col. 16, lines 1-11).

12. As per claims 11,30 Kovacevic-Echeita disclosed wherein the number of entries in the second arbitration element for a particular one of the streams is based on a speed of the stream (Kovacevic, col. 31, lines 10-21).

13. As per claims 12,31 Kovacevic-Echeita disclosed wherein the dispatch unit is configured to: read one of the stream numbers from the second arbitration element, read data corresponding to the identified stream from the memory, and output the data for processing (Kovacevic, col. 25, lines 31-47).

14. As per claims 13,32 Kovacevic-Echeita disclosed further comprising: flow control logic configured to initiate flow control on the storing of data in the memory (Kovacevic, col. 36, lines 15-27).

15. As per claims 14,36,42,50 Kovacevic-Echeita disclosed wherein the flow control includes dropping data from the stream (Kovacevic, col. 16, lines 43-57).

16. As per claims 15,37,43,51 Kovacevic-Echeita disclosed wherein the flow control includes causing the interface controller to stop storing data from the stream in the memory (Kovacevic, col. 16, lines 42-58).

17. As per claims 16,33,47 Kovacevic-Echeita disclosed wherein the flow control logic includes: a buffer configured to temporarily store the data from the interface controller in a plurality of entries, a counter configured to determine a number of entries in the buffer corresponding to each of the streams, and comparator configured to determine whether to initiate the flow control for each of the streams based on the determined number of entries for the stream (Kovacevic, col. 15, lines 45-62).

18. As per claims 17,34,41,49 Kovacevic-Echeita disclosed wherein the comparator is configured to compare the determined number of entries for a stream to a watermark and initiate the flow control for the stream when the determined number of entries exceeds the watermark (Kovacevic, col. 19, lines 47-61).

19. As per claims 18,35,44,52 Kovacevic-Echeita disclosed wherein the comparator is further configured to compare the determined number of entries for the stream to a second watermark and drop data from the stream when the determined number of entries exceeds the second watermark (Kovacevic, col. 19, lines 47-61).

20. As per claims 19,38,45 Kovacevic-Echeita disclosed wherein each of the streams has an associated watermark for use in performing flow control on the storing of data in the memory (Kovacevic, col. 19, lines 47-61).

Art Unit: 2145

21. As per claims 20,39,46 Kovacevic-Echeita disclosed wherein each of the streams has two associated watermarks for use in performing flow control on the storing of data in the memory (Kovacevic, col. 19, lines 47-61).

22. As per claim 25 Kovacevic-Echeita disclosed wherein the storing includes: reading one of the stream numbers from the first arbitration element, gathering data corresponding to the identified stream, and transferring the data to the memory (Kovacevic, col. 36, lines 15-27).

23. As per claims 55,56 Kovacevic-Echeita disclosed a system for performing flow control on data in a plurality of incoming streams of variable speeds, comprising: a buffer configured to temporarily store data from a plurality of streams of variable speeds in a plurality of entries (Echeita, col. 6, lines 16-26); a counter configured to determine a number of entries in the buffer corresponding to each of the streams (col. 15, lines 45-62); and a comparator configured to: compare the determined number of entries for a stream to first and second watermarks, initiate flow control for the stream when the determined number of entries exceeds the first watermark, and drop data from the stream when the determined number of entries exceeds the second watermark (col. 19, lines 47-61).

Response to Arguments

Applicant's arguments filed 10/26/2005 have been fully considered but they are not persuasive. Response to applicant's arguments is as follows.

24. Applicant argued that prior art did not disclose, "A memory configured to store data associated with a plurality of incoming streams of variable speeds".

As to applicant's argument Kovacevic disclosed, "Because the private data from be transport packet has a variable length, there is no guarantee that the private data does not end on a double word boundary" (col. 25, lines 20-23).

25. Applicant argued that prior art did not disclose, "An interface controller comprising a first arbitration element and configured to store the data in the memory using the first arbitration element".

As to applicant's argument Kovacevic disclosed, "The System HBI controller requests access to the video memory through the controller. The video memory through the controller. The controller may include a system bus controller, a memory controller, or a combination of a memory/system bus controller. Generally, the controller will control access to other system resources as well" (col. 19, lines 36-46).

26. Applicant argued that prior art did not disclose, “Wherein the first arbitration element is configured to store a plurality of entries, each of the entries including a stream number that identifies one of the streams”.

As to applicant’s argument Kovacevic-Echeita disclosed, “The Video PID storage location provides the PID value which identifies the current video stream, while the shadow register associated with location stored the PID value of the next video stream to be accessed at the splice point” (col. 29, lines 59-63).

27. Applicant argued that prior art did not disclose, “A buffer configured to temporarily store data from a plurality of streams of variable speeds in a plurality of entries”.

As to applicant’s argument one ordinary skill in the art at the time of the invention knows that the buffer is defined or in other word knows as temporarily storage where as in this case buffer is storing the video streams of variable length interpreted as plurality of streams of variable length.

28. Applicant argued that prior art did not disclose, “an interface controller comprising a first arbitration element to arbitrate among the streams of variable speeds and configured to store the data in the memory using the first arbitration element”.

Art Unit: 2145

As to applicant's argument Echeita disclosed, "The media concentrator with arbitration 20 determines that the information of data streams one, two and three should be transmitted over e.g. a representative 30 Mbps available bandwidth channel to subscribe stations along with live data at a particular time, based on priority. The first frame of processed data of data stream two is placed on output of storage device" (col. 7, lines 64-67 & col. 8, lines 1-2).

Conclusion

29. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Adnan Mirza whose telephone number is (571)-272-3885.

30. The examiner can normally be reached on Monday to Friday during normal business hours. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Cardone can be reached on (571)-272-3933. The fax for this group is (703)-746-7239. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

31. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for un published applications is available through Private PAIR only. For

Art Unit: 2145

more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866)-217-9197 (toll-free).

AM

Adnan Mirza

Examiner


JASON CARDONE
SUPERVISORY PATENT EXAMINER